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THE EFFECT OF FREIGHT RATES ON AGRICULTURAL GEOGRAPHY.[1]

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If one needs proof of the dependence of agriculture upon transportation facilities, it may be had in abundance from the story of the movement of the American people into the West. Almost from the first the primary question was that of transportation facilities, even of transportation possibilities.

The early settlers beyond the Alleghanies depended on the rivers as a means of travel into the country, and likewise for getting produce back to a market. Before the days of the steamboat, transportation was mainly downstream, and with good reason it was predicted that New Orleans was destined to be the greatest port on the Atlantic coast. The geography of the early agriculture of the whole country is outlined by the water courses.

By the middle of the nineteenth century, when the lure of cheap land had coaxed the settlers well into the heart of the Mississippi Valley, the question of transportation was second only to the Homestead law in the minds of the pioneer. Wheat was hauled a hundred miles to Dubuque, Winona, and Milwaukee, not because it was valuable enough to stand such expensive transportation, but merely because it was the only marketable commodity which the farmer had, and because there was no other means of finding a buyer. When this work of transporting was done by the grower of the produce there was a high cost, but no charge.

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[1] Paper read at the annual meeting of the American Farm Economic Association, Pittsburgh, Pa., Dec. 29, 1921.

No sooner was there a demand for goods farther west than agricultural production and manufacturing had progressed than the dependence of man on transportation was more acutely manifest than had appeared in connection with the goods pioneers had undertaken to sell. This was possible because prices paid by the pioneer miner, for instance, were well above prices paid by the eastern consumers, who, as a rule, were well supplied.

Before the days of the railroad there were numerous instances of freight hauling at the rate of a hundred dollars a ton for distances less than half across the continent. For instance, it cost $10 a barrel to carry flour up the Missouri from Kansas or Iowa points to Ft. Benton, Montana. These rates acted as a strong stimulus to the beginnings of agriculture in Montana, during a decade or two after the rush to California. The cost of getting foodstuff into the territory was so high as to make farming and gardening more profitable than washing gold. The same situation now obtains in portions of Alaska. Lack of adequate transportation facilities is forcing agriculture well up to the arctic circle.

The appreciation of the dependence of man on the means of moving goods was manifest long ago. It is the great leveler of economic conditions. In Adam Smith's "Wealth of Nations" we find these words:

> Good roads, canals and navagable rivers, by diminishing the expense of carriage, put the remote parts of the country more nearly upon a level with those in the neighborhood of the town. They are upon that account the greatest of all improvements. They encourage the cultivation of the remote, which must always be the most extensive circle of the country. They are advantageous to the town, by breaking down the monopoly of the country in its neighborhood. They are advantageous even to that part of the country. Though they introduce some rival commodities into the old market, they open many new markets to its produce. Monopoly, besides, is a great enemy to good management, which can never be universally established, but in consequence of the free and universal competition which forces everybody to have recourse to it for the sake of self-defence. It is not more than fifty years ago, that some of the counties in the neighborhood of London petitioned the parliament against the extension of the turn-pike roads into the remoter counties. Those remoter counties, they pretended, from the cheapness of labor, would be able to sell their grass and corn cheaper in the London Market than themselves, and would thereby reduce their rents, and ruin their cultivation. Their rents, however, have risen, and their cultivation has been improved since that time.

Among the most striking of modern developments are those designed to eliminate, so far as possible, both time and space as hindrances to human activity. Man likes to move, as is manifested by the attention given to motor-driven vehicles. The cost in money is in no small measure compensated by the saving in time. Better and cheaper transportation is a universal want. An increase in freight rates out of proportion to other prices, no matter how necessary it may be, strikes a blow at the vitals of the body politic. This does not apply to a nominal increase, corresponding to the increases in general price levels. It applies to an increase such as has developed during the past year and a half, and which is out of harmony with the price level, becoming, in fact, the cause of unbalanced prices. The occasion for the increase in freight rates is not difficult to discover. Even the persistency of the high level in the face of a general fall in prices admits of explanation, and to some extent defense. Nevertheless agriculture is thrown out of gear by the lack of balance between the sale value of farm produce and the cost of moving it. Either the rates must be revised downward or agriculture must be readjusted to the new demands.

Does the Farmer Pay the Freight?

In nearly all popular discussions of freight rates and the farmers it is assumed that the farmer pays the freight both ways. It is manifest that he actually does pay it in the case of goods shipped to him as a consumer, and likewise that he suffers a loss corresponding to the freight charge in the case of farm products shipped by him to distant buyers. If the assumption that the farmer pays the freight both ways be true, then, indeed, no one but the farmer is vitally concerned in the haulage charge from country to city and back. Explicitly it is claimed that the price of wheat is the central market price minus the cost of getting it from farm to central market, and likewise the farm price of such things as machinery is popularly computed as the wholesale figure plus subsequent additions of which freight is an item. In part these views are correct, but in part only. They are correct in so far as they apply to individual, isolated cases, and to all cases in which adjustments consequent upon the new rates have not yet been made. For instance, a given farmer, or a small group of farmers, living beyond the main settlements may very properly figure their receipts for grain produced in terms of central market prices minus the cost of getting it delivered to such market. Should it at one time cost them 50 cents a bushel for transportation, and later through better means cost but a quarter, the farmers will be benefited to the full extent of the quarter dollar. On the other hand, should the transportation charge increase by 25 cents, the farmers will have exactly 25 cents less for each bushel.

Likewise, should it cost $40 in freight charges to carry a self-binder to this outlying district in place of $20 to points nearer the manufacturing center, the pioneer farmers are poorer because of this additional charge. Whether they have off-setting advantages in other ways does not enter into the question. It is made to appear that the farmer pays the freight both to and from the farm. The case is as presented on the assumption that the isolated farmers are so few as to exert no appreciable effect on the market in the way of goods demanded and supplied. They take the same price which would prevail were they to cease production, and they pay the same price which would prevail were they to cease buying.

The above point of view is held perhaps unconsciously by the farmers in general as applying to the present high freight situation. Ultimately the view must be wrong. Immediately it may be mainly true. For example, suppose there is an ample supply of wheat in sight, as was the case in 1920, and the next crop virtually assured, since habit is strong, and no conspicuous advantage offered in changing to other lines. Thus the succeeding wheat supply is bound to be overabundant. With a surplus to be sold in Europe the first question to be asked is what can be obtained for the amount put on sale in that market. Undoubtedly this price is pivotal in the determination of prices in this country. Thus for the present, and by the present we may understand a period of time a few years in length, it is not incorrect to say that the farmer pays the freight on the produce he raises. The supply is determined in advance, for the time being, and freight costs do not enter as a supply determinant any more than the high wages paid in 1920, when it was assumed that prices would remain high, availed in keeping prices high. That the farmer thinks he pays the freight on goods both going and coming can not be doubted. Under certain circumstances he does, but the circumstances bringing this to pass are not normal. As an illustration an actual occurrence may be cited. A South Dakota farmer sold some alfalfa hay to a Wisconsin dairyman. The price in South Dakota was $8 a ton, which left the farmer but $4 a ton for the hay as it stood in the stack. The railroad charge was $13 a ton, thus making $21 at the point of delivery. The Dakota farmer thinks of the $21 and feels that he gets just as much less as the amount of the charge made for hauling from his station to the Wisconsin station. The buyer looks at the $8 price f. o. b. shipping station and feels that he is obliged to pay the difference. How both can be right requires explanation. Each is taking it for granted that the two prices are respectively fixed independently of the transportation facilities and the charge for the service. Nothing could be farther from the truth. Were there no facilities for making the shipment, hay might be worth $10 more per ton than it is in Wisconsin, and might be worth nothing in South Dakota. Indeed, it might not be grown at all in the latter State, or at least not for shipment to distant points. In this case the Wisconsin dairyman would look for his hay nearer home and would buy it or not, according to the chances it afforded of yielding him a profit. But whatever the price paid it is clear that from his standpoint he must pay for getting it from the point of origin to his premises.

Taking a long-time point of view, it is demonstrable that the buyer rather than the seller pays the freight, even though Jones may advertise to do so. The generally accepted principle that the benefits of improvements tend to diffuse themselves is nowhere better illustrated than in the historical instance of the development of the American railway. In 1870 the western farmer was ready to mortgage his farm in order to subscribe bonuses for the railroad. Lower freight rates, he believed, stood between him and prosperity. He got the lower rates, but so also did his neighbors, and by producing more than was wanted at the former prices sales were made at such low levels as to leave but a meager margin for the living of the farmer and his family. The advantage was diffused and society got cheap food, while the producer was left with a meager reward.

Should freight rates continue high the resultant decrease in the supplies of goods due to the discontinuance of operations on the part of those least favorably situated would result in a decreased supply. By this means a higher price would of necessity obtain. Thus in the higher price the consumer would pay the freight, while the producer would immediately be, after the readjustment, about as well off as before. Actually he would be worse off because of the necessity of living a more restricted life. Goods would cost him more, and while he would seem relatively to be prosperous, it would not be on the same level as though transportation had remained cheap.

THE NATION HAS BEEN BUILT UPON CHEAP TRANSPORTATION.

With the cheapest railway service in the world the United States has to an unbelievable extent become a single economic unit. Senator Benton declared, about the time of the Oregon settlement, that God himself had set the Rocky Mountains as the western terminus of

American expansion. Yet we cover our houses with red-cedar shingles from Oregon and Washington, and they in those States use International Harvester machines and burn Standard oil.

Before the days of cheap transportation small packing plants were to be found throughout the Ohio and Mississippi valleys; agricultural implements were manufactured in a hundred scattered cities; iron was mined in a half-dozen important districts; wheat was milled within short distances of where it was grown. To an even greater extent each community depended on itself for potatoes, fruits, and vegetables. In other words, the family and the community were largely self-sufficing.

For a generation now well past we have turned the scattered units of America into an organism. We do our gardening near the cities or in the regions of long summers. We get our bread from Kansas and North Dakota; butter from Minnesota, Iowa, and Wisconsin; meat from the corn belt and the Southwest. Likewise we do the packing in a few great centers and redistribute the meat. Iron comes from Minnesota and goes to every State in the Union, even to those once great producers of iron. More than half of the agricultural implements are made in two States, and these furnish almost no raw material used in the process.

Strictly within the field of agriculture it may be noted that for many years the eastern dairyman have fed their cows on hay and mill feeds from the Middle West. Cattle feeders have brought their cattle from Texas and Oklahoma to the corn fields of Kansas and Nebraska, while western lambs have been fattened within a hundred miles of Chicago. We have in a large way illustrated the principle so aptly discussed by Von Thünen. The United States is not as simple as his hypothetical state. The circles are not so nearly concentric, but in the main they are there. We have carried territorial division of labor to a high degree of development. In general, the producer of raw material has gone to the outermost circle, the manufacturer has gravitated toward the center. Agriculture has spread itself as far as the cost of transportation would permit.

High Rates Disorganize the Economic System.

Imagine that we should wake up some morning to find that the earth had expanded in circumference to twice her former size, with no greater ability to support life. San Francisco would be over 6,000 miles from New York. Omaha a thousand miles from Chicago. The eastern dairyman twice as far from his feed supplies, and, *pari* *passu,* the grower of feed, double the distance from his market. At once there would begin a readjustment of life on the planet. Those who in a business way had been neighbors would become strangers, and those who had depended on the bewildering variety of the market for suggestions with respect to viands and apparel would begin to cultivate their own gardens and consult their local craftsman. With distances doubled it is not to be doubted that local producers would have the advantage, so far as goods wanted near home are concerned, over producers far away. Likewise the inducement to produce for a distant market would be lessened. In other words, the situation would favor producing for the home market, which is to say, each community would be impelled to the extent of the added cost of getting goods from one section to another to live apart from and independent of others. Such traffic as would persist would be of necessity in goods high in value per pound. For instance, there is butter shipped out of the Dakotas. This would probably increase, since the cost of shipping butter is relatively small per dollar of value. Similarly the cost of shipping live stock is less in proportion to value than is the case of wheat. Indeed, it has already been announced by the governor of one of the Northwestern States that in his opinion the farmers of his section, on account of the increased freight rates, will be obliged to produce goods of a more concentrated nature than wheat and flax.

The farmers near to the centers of population will be affected much less than those at a distance so far as selling is concerned. This is true because on account of nearness to market the freight charge represents a smaller item in the whole expense of getting goods to market than is the case with those farther out. Hence it is safe to predict that, should the present rates continue, the Pennsylvania and New York farmers will have an added advantage over the western farmers in the matter of marketing such produce as they grow on their own farms. As buyers of feed to be turned into dairy products and meat they will be less advantageously situated than formerly. Hence it may be expected that there will be a strong tendency to produce more roughage east of the Alleghanies, and at the same time a probability of bringing in liquid milk from farther to the west. The advantage of territorial division of labor is likely to suffer a distinct set-back. Ultimately the railroads will have less to haul, and the people will have less advantage growing out of the hauling. If a larger share must go to the railroad work, then again must the time of greatest economy in production be postponed. We must return to a more primitive mode of life. More energy will go into overcoming friction, and high freight charges may well be likened to a high-resistance coil which brings the electric current down to lower voltage. In the transmission of the electric current the voltage is reduced for a purpose, even though some loss result. In high freight rates the two great classes of people, farmers on the one hand and consumers on the other, suffer, and civilization is hindered in its march.

The following table shows important facts concerning the freight charges of 1921 in contrast with those of 1914:

FREIGHT RATES.

Shipping Point From	Receiving Point To	Article.	Freight Rates Per 100 lbs.			Value F.O.B. Shipping Point Per 100 lbs.			Percentage of Freight Rate to F.O.B. Value.		
			1914.	1921.	Index 1914.	1914.	1921.	Index 1914.	1914.	1921.	Increase.
Wis. Rapids	Chicago	Butter	33	56	169	28.40	73.00	151	1.2%	1.3%	0.1 %
" "	"	Cheese	33	56	169	14.00	20.00	143	2.4%	2.5%	0.4%
" "	"	B. Cattle	17.7	29½	166	6.01	7.00	117	2.9%	4.2%	1.3%
Chicago	Wis. Rapids	Farm. Mach.	18	34	188	.70	1.00	143	26 %	34 %	8 %
Bismark	" "	Hay	33	56	169	.55½	.60	108	60 %	93 %	33 %
Bozeman	" "	Hay	50	86½	172	.55½	.60	108	90 %	144 %	54 %
Bismark	" "	Bran	26	42	161	.87	.79	91	30 %	53 %	23 %
Bozeman	" "	Bran	37½	63	170	.87	.79	91	42 %	80 %	38 %
Bismark	Chicago	Wheat	26	42	161	1.47	1.45	99	18 %	29 %	11 %
Bozeman	"	Wheat	37½	63	170	1.47	1.45	99	25 %	43 %	18 %
Bismark	"	Hay	35	59½	168	.55½	.60	108	64 %	99 %	35 %
Bozeman	"	Hay	52	86½	166	.55½	.60	108	94 %	144 %	50 %
Bismark	"	Bran	26	42	161	.87	.79	91	30 %	53 %	23 %
Bozeman	"	Bran	37½	63	170	.87	.79	91	42 %	80 %	38 %
Bismark	"	B. Cattle	41	69	168	6.01	7.00	117	6.8%	9.9%	3.1%
Bozeman	"	B. Cattle	41½	70½	169	6.01	7.00	117	6.9%	10 %	3.1%
Chicago	Bismark	Farm. Mach.	65	110	169	.70	1.00	143	93 %	110 %	17 %
Chicago	"	Cheese	107	181	169	14.00	20.00	143	7.6%	9 %	1.4%